IN THE CLAIMS:

1. (Currently amended) A fixture used in conjunction with a gas turbine component blank having an orthogonal reference system including an x-axis, a y-axis, and a z-axis, the gas turbine component blank comprising

an elongated airfoil extending generally parallel to the z-axis and having an airfoil face,

a platform extending transversely to the z-axis at a first end of the airfoil, the platform having a top side adjacent to the airfoil and a bottom side oppositely disposed from the top side,

a root precursor at the first end of the airfoil and extending away from the airfoil along the z-axis, wherein the root precursor has a pair of oppositely disposed ends lying perpendicular to the y-axis, and a pair of sides, and

a rotating shroud at a second end of the airfoil extending transversely to the z-axis and along the y-axis,

the fixture comprising:

a base upon which a remainder of the fixture is supported, the base having an x-axis datum locator, a y-axis datum locator including a first y-axis stop and a second y-axis stop, and a z-axis datum locator, wherein the x-axis datum locator is positioned to receive the gas turbine component blank thereon with the airfoil face in a ~~general~~ generally facing relationship to the base; and

a clamp movable between

an unclamped position in which the gas turbine component blank may be inserted onto the x-axis datum locator of the base, and

a clamped position wherein the clamp simultaneously forces a first end of the root precursor against the first y-axis stop, the rotating shroud against the second y-axis stop, and the gas turbine component blank against the z-axis datum locator.

2. (Original) The fixture of claim 1, wherein the clamp comprises

a compound mechanical movement that simultaneously forces the gas turbine

component blank against the y-axis datum locator and the z-axis datum locator when the clamp is moved from the unclamped position to the clamped position.

3. (Original) The fixture of claim 1, wherein the clamp comprises

a first link pivotably connected to the base and contacting to the root precursor and to the platform when the clamp is in the clamped position, so as to force the first end of the root precursor against the first y-axis stop and to force the platform against the z-axis datum locator, and

a second link pivotably connected to the base and contacting to the rotating shroud when the clamp is in the clamped position, so as to force the rotating shroud against the second y-axis stop, the first link having a sliding and pivoting interconnection to the second link.

4. (Original) The fixture of claim 3, wherein the first link includes a z-positioning spring contacting the bottom side of the platform when the clamp is in the clamped position to force the top side of the platform against the z-axis datum locator.

5. (Original) The fixture of claim 3, wherein the sliding and pivoting interconnection comprises a mechanical knuckle.

6. (Original) The fixture of claim 1, further including

an hydraulic actuator operable to move the clamp between the unclamped position and the clamped position.

7. (Original) A fixture used in conjunction with a gas turbine component blank, the gas turbine component blank comprising

an airfoil having a direction of elongation,

a platform extending transversely to the airfoil and having a top side adjacent to the airfoil and a bottom side oppositely disposed from the top side,

a root precursor at the first end of the airfoil and extending away from the

airfoil, wherein the root precursor has a pair of oppositely disposed ends, and a pair of sides, and

a rotating shroud at a second end of the airfoil and extending transversely to the airfoil,

the fixture comprising:

a base lying in a base plane and having a datum locator, the datum locator including

an x-axis datum locator upon which the gas turbine component blank is supported so that the direction of elongation of the airfoil is generally parallel to the base plane, the x-axis datum locator preventing movement of the gas turbine component blank perpendicular to the base plane,

a y-axis datum locator comprising a first y-axis stop and a second y-axis stop, wherein the first y-axis stop is contacted by a first one of the ends of the root precursor and the second y-axis stop is contacted by the rotating shroud, and

a z-axis datum locator that is contacted by the gas turbine component blank and which prevents movement of the gas turbine component blank parallel to the direction of elongation of the airfoil; and

a clamp movable between

an unclamped position in which the gas turbine component blank may be inserted onto the x-axis datum locator of the base, and

a clamped position wherein the clamp simultaneously forces the first end of the root precursor against the first y-axis stop, the rotating shroud against the second y-axis stop, and the gas turbine component blank against the z-axis datum locator.

8. (Original) The fixture of claim 7, wherein the clamp comprises

a compound mechanical movement that simultaneously forces the gas turbine component blank against the y-axis datum locator and the z-axis datum locator when the clamp is moved from the unclamped position to the clamped position.

9. (Original) The fixture of claim 7, wherein the clamp comprises

a first link pivotably connected to the base and contacting to the root precursor and

to the platform when the clamp is in the clamped position, so as to force the first end of the root precursor against the first y-axis stop and to force the platform against the z-axis datum locator, and

a second link pivotably connected to the base and contacting to the rotating shroud when the clamp is in the clamped position, so as to force the rotating shroud against the second y-axis stop, the first link having a sliding and pivoting interconnection to the second link.

10. (Original) The fixture of claim 9, wherein the first link includes a z-positioning spring contacting the bottom side of the platform when the clamp is in the clamped position to force the top side of the platform against the z-axis datum locator.

11. (Original) The fixture of claim 9, wherein the sliding and pivoting interconnection comprises a mechanical knuckle.

12. (Original) The fixture of claim 7, further including

an hydraulic actuator operable to move the clamp between the unclamped position and the clamped position.

13. (Original) A fixture used in conjunction with a gas turbine component blank having an airfoil, a root precursor at a first end of the airfoil, and a rotating shroud at a second end of the airfoil, the fixture comprising:

a base lying in a base plane and having a datum locator, the datum locator including

an x-axis datum locator upon which the gas turbine component blank is supported to prevent movement of the gas turbine component blank perpendicular to the base plane,

a y-axis datum locator comprising a first y-axis stop and a second y-axis stop, the y-axis datum locator preventing movement of the gas turbine component blank in a first direction lying in the base plane, and

a z-axis datum locator that prevents movement of the gas turbine component

blank in a second direction orthogonal to the first direction and lying in the base plane; and

a clamp movable between

an unclamped position in which the gas turbine component blank may be inserted onto the x-axis datum locator of the base, and

a clamped position wherein the clamp simultaneously forces the root precursor against the first y-axis stop, the rotating shroud against the second y-axis stop, and the gas turbine component blank against the z-axis datum locator.

14. (Original) The fixture of claim 13, wherein the clamp comprises

a compound mechanical movement that simultaneously forces the gas turbine component blank against the y-axis datum locator and the z-axis datum locator when the clamp is moved from the unclamped position to the clamped position.

15. (Original) The fixture of claim 13, wherein the clamp comprises

a first link pivotably connected to the base and contacting to the root precursor and to the platform when the clamp is in the clamped position, so as to force the first end of the root precursor against the first y-axis stop and to force the platform against the z-axis datum locator, and

a second link pivotably connected to the base and contacting to the rotating shroud when the clamp is in the clamped position, so as to force the rotating shroud against the second y-axis stop, the first link having a sliding and pivoting interconnection to the second link.

16. (Original) The fixture of claim 15, wherein the first link includes a z-positioning spring contacting the bottom side of the platform when the clamp is in the clamped position to force the top side of the platform against the z-axis datum locator.

17. (Original) The fixture of claim 15, wherein the sliding and pivoting interconnection comprises a mechanical knuckle.

18. (Original) The fixture of claim 13, further including

an hydraulic actuator operable to move the clamp between the unclamped position and the clamped position.

19. (Original) A method for shaping a gas turbine component blank, the gas turbine component blank comprising

an airfoil having a direction of elongation,

a platform extending transversely to the airfoil and having a top side adjacent to the airfoil and a bottom side oppositely disposed from the top side,

a root precursor at the first end of the airfoil and extending away from the airfoil, wherein the root precursor has a pair of oppositely disposed ends, and a pair of sides, and

a rotating shroud at a second end of the airfoil and extending transversely to the airfoil,

the method including the steps of

providing a fixture comprising

a base lying in a base plane and having a datum locator, the datum locator including

an x-axis datum locator upon which the gas turbine component blank is supported so that the direction of elongation of the airfoil is generally parallel to the base plane, the x-axis datum locator preventing movement of the gas turbine component blank perpendicular to the base plane,

a y-axis datum locator comprising a first y-axis stop and a second y-axis stop, wherein the first y-axis stop is contacted by a first one of the ends of the root precursor and the second y-axis stop is contacted by the rotating shroud,

a z-axis datum locator that is contacted by the gas turbine component blank and which prevents movement of the gas turbine component blank parallel to the direction of elongation of the airfoil;

a clamp movable between

an unclamped position in which the gas turbine component blank may be inserted onto the x-axis datum locator of the base, and

a clamped position wherein the clamp simultaneously forces the first end of the root precursor against the first y-axis stop, the rotating shroud against the second y-axis stop, and the gas turbine component blank against the z-axis datum locator; thereafter

placing the gas turbine component blank into the fixture with the clamp in the unclamped position; thereafter

operating the clamp to move the clamp to the clamped position; and thereafter

shaping the gas turbine component blank.

20. (Original) The method of claim 19, wherein the step of providing the fixture includes the step of providing the clamp comprising

a compound mechanical movement that simultaneously forces the gas turbine component blank against the y-axis datum locator and the z-axis datum locator when the clamp is moved from the unclamped position to the clamped position.

21. (Original) The method of claim 19, wherein the step of providing the fixture includes the step of providing the clamp comprising

a first link pivotably connected to the base and contacting to the root precursor and to the platform when the clamp is in the clamped position, so as to force the first end of the root precursor against the first y-axis stop and to force the platform against the z-axis datum locator, and

a second link pivotably connected to the base and contacting to the rotating shroud when the clamp is in the clamped position, so as to force the rotating shroud against the second y-axis stop, the first link having a sliding and pivoting interconnection to the second link.

22. (Original) The method of claim 21, wherein the step of providing the fixture includes the step of providing the clamp comprising the first link including a z-positioning spring contacting the bottom side of the platform when the clamp is in the clamped position to force the top side of the platform against the z-axis datum locator.

23. (Original) The method of claim 21, wherein the step of providing the fixture includes the step of providing the clamp comprising

the sliding and pivoting interconnection comprising a mechanical knuckle.

24. (Original) The method of claim 19, wherein the step of providing the fixture includes the step of providing the clamp comprising

an hydraulic actuator operable to move the clamp between the unclamped position and the clamped position.

25. (Original) The method of claim 19, wherein the step of shaping includes the step of

shaping the sides of the root precursor into the dovetail form.

26. (Original) The method of claim 19, wherein the step of shaping includes the step of

grinding the sides of the root precursor into the dovetail form.